

ZIMBABWE MALARIA CASE MANAGEMENT GUIDELINES

UNCOMPLICATED MALARIA

First line treatment

Artemether (20mg) - Lumefantrine (120mg)(Coartemether)

AGE IN YEARS	WEIGHT IN KILOGRAMS	DOSAGE (NUMBER OF TABLETS)					
		DAY 1		DAY 2		DAY 3	
		Stat dose	After 8 hours	A.M.	P.M.	A.M.	P.M.
<3	5-14	1	1	1	1	1	1
≥3-8	15-24	2	2	2	2	2	2
≥9-14	25-34	3	3	3	3	3	3
>14	35+ and adults	4	4	4	4	4	4

NB for children weighing below 5kg use quinine (see BELOW)

- Coartemether is taken twice a day for 3 days (6 doses)
- To ensure compliance give the STAT dose as Directly Observed Therapy (DOT)
- If the stat dose of Coartemether is vomited within 30 minutes repeat the dose.
- If there is no improvement after 48 hours, change to second line medicine - ARTESUNATE-AMODIAQUINE (see BELOW).
- If vomiting is persistent treat as severe/complicated malaria.

Second line treatment

Artesunate - Amodiaquine (ASAQ) for patients above 5kg body weight (older than 2 months)

APPROXIMATE AGE RANGE	WEIGHT RANGE	DOSAGE	DAY 1	DAY 2	DAY 3
2-11 months	5kg to <9kg	25mg Artesunate 67.5mg Amodiaquine	1 Tablet	1 Tablet	1 Tablet
1-5 years	9kg to <18kg	50mg Artesunate 135mg Amodiaquine	1 Tablet	1 Tablet	1 Tablet
6-13 years	18kg to 36kg	100mg Artesunate 270mg Amodiaquine	1 Tablet	1 Tablet	1 Tablet
14 years and above	36kg and above	100mg Artesunate 270mg Amodiaquine	2 Tablets	2 Tablets	2 Tablets

- In cases of weight age disparity, use the weight of the patient for dosing.
- The first dose should be given as directly observed treatment (DOT).
- If the stat dose of Artesunate- Amodiaquine (ASAQ) is vomited within 30 minutes repeat the dose.
- Artesunate-Amodiaquine should not be taken with a fatty meal.
- If there is no improvement after 48 hours treat as severe malaria.
- Where ASAQ is contraindicated use the alternative second line treatment - oral Quinine with Clindamycin or Doxycycline (see below).

NB for children weighing below 5kg (less than 2 months) use quinine (see BELOW)

Treatment for children weighing less than 5kg body weight is Oral Quinine alone given for a total of seven days

MEDICINE	DOSE	DOSING FREQUENCY	DURATION
QUININE (Oral)	10mg per kg body weight	Every 8 hours	7 days

Alternative second line treatment - Oral Quinine

ADULTS				
MEDICINE	DOSE	FREQUENCY	DURATION	
Quinine tablets + Doxycycline* or Clindamycin	Quinine tablets	600mg	Every 8 hours	7 days
	Doxycycline	100mg	Once daily	7 days
	Clindamycin	300mg	Every 8 hours	7 days
CHILDREN				
Quinine	10mg per kg body weight	Every 8 hours	7days	

NB:

- If for any reason oral quinine is given as monotherapy the duration of treatment should be 7 days.
- *Doxycycline is contraindicated in children below 8 years and in pregnancy and these patients should be commenced on Clindamycin complete the 7 day quinine course.

MALARIA IN PREGNANCY

Treatment of uncomplicated Malaria in Pregnancy

TRIMESTER/APPROXIMATE GESTATION								
1 ST TRIMESTER BEFORE QUICKENING		2 ND TRIMESTER AFTER QUICKENING AND 3 RD TRIMESTER						
MEDICINE		MEDICINE	DAY 1		DAY 2		DAY 3	
			STAT	AFTER 8 HRS	AM	PM	AM	PM
Oral Quinine 600mg every 8 hrs and Clindamycin 300mg tablets every 8 hrs for 7 days	1 st line	Artemether 20mg and Lumefantrine 120mg (Coartemether) tablets	4	4	4	4	4	4
	2 nd line	Artesunate (100mg) -Amodiaquine (270 mg) tablets (ASAQ)	2		2		2	

Intermittent Preventive Treatment in Pregnancy (IPTp)

- IPTp is only recommended for pregnant women residing in districts with moderate to high malaria transmission
- Give 3 tablets of SP (each tablet contains Sulphadoxine 500 mg and Pyrimethamine 25 mg) at booking (after quickening).
- Give SP to all pregnant women at each scheduled ANC visit up to time of delivery
- The SP doses should be at least 4 WEEKS APART
- SP should be given as directly observed therapy
- SP can be given on either an empty stomach or with food
- SP should NOT be administered to women receiving Cotrimoxazole prophylaxis
- It is recommended that weekly Folic acid also be given to pregnant woman taking IPTp

SEVERE/COMPLICATED MALARIA

Parenteral Artesunate

Dose: 2.4mg/kg body weight

Preparing Artesunate for Intravenous and Intramuscular injection

- Artesunate is presented as a VIAL OF 60MG POWDER together with a 1ml ampoule of Sodium Bicarbonate

Reconstitute

- Activate the Artesunate powder by mixing with 1ml of Bicarbonate provided

Dilute

- Add 5mls Normal Saline solution or 5% Dextrose to each vial of Reconstituted Artesunate for IV use. Shake well. Discard the resultant solution if it is cloudy

- Add 2mls Normal Saline solution or 5% Dextrose to each vial of Reconstituted Artesunate for IM

- Give a minimum of 3 parenteral doses of Artesunate once started before changing to oral treatment, even if the patient is able to take oral medication early

- Prepare a fresh solution for each injection

- IV injection is given as slow bolus, about 4ml/min
- Discard any unused solution

- Intramuscular injection - the anterior thigh is usually the preferred site. If required volume is more than 5mls divide the dose and give on both thighs

- Once the patient is able to take oral medication switch to Coartemether for a full three day course

- If the patient is unable to take any oral medication continue with Intravenous Artesunate for a total of seven days

- CAUTION!** Artesunate should not be administered as an intravenous drip

Parenteral Quinine remains an alternative medicine where Artesunate is not available or contraindicated

For intravenous route (IV) Concentration: 10 mg/ml			For intramuscular route (IM) Concentration: 20 mg/ml		
2.4 mg x body weight (kg) IV Artesunate solution concentration 10 mg/ml			2.4 mg x body weight (kg) IV Artesunate solution concentration 20 mg/ml		
Example: Dose needed (ml) for 26 kg child: $\frac{2.4 \times 26}{10} = 6.24\text{ml}$ 7ml*			Example: Dose needed (ml) for 26 kg child: $\frac{2.4 \times 26}{20} = 3.12\text{ml}$ 4ml*		
*Round up to the next whole number					
WEIGHT	DOSE		WEIGHT	DOSE	
kg	mg	ml	kg	mg	ml
5-8	20	2	5-8	20	1
9-12	30	3	9-12	30	2
13-16	40	4	13-16	40	2
17-20	50	5	17-20	50	3
20-25	60	6	20-25	60	3
26-29	70	7	26-29	70	4
30-33	80	8	30-33	80	4
34-37	90	9	34-37	90	5
38-41	100	10	38-41	100	5
42-45	110	11	42-45	110	6
46-50	120	12	46-50	120	6
51-54	130	13	51-54	130	7
55-58	140	14	55-58	140	7
59-62	150	15	59-62	150	8
63-66	160	16	63-66	160	8
67-70	170	17	67-70	170	9
71-75	180	18	71-75	180	9
76-79	190	19	76-79	190	10
80-83	200	20	80-83	200	10
84-87	210	21	84-87	210	11
88-91	220	22	88-91	220	11
92-95	230	23	92-95	230	12
96-100	240	24	96-100	240	12

Alternate medicine for severe (complicated) malaria: Parenteral Quinine

CHILDREN IV DOSE	ADULTS IV DOSE
LOADING Quinine 20mg/kg body weight diluted in 10ml/kg Normal Saline or 5% Dextrose over 4 hours	LOADING Quinine 20mg/kg body weight diluted in 500ml normal saline or 5% Dextrose over 4 hours
AFTER 8 HOURS Quinine 10mg/kg body weight diluted in 10ml/kg Normal Saline or 5% Dextrose over 4 hours	AFTER 8 HOURS Quinine 10mg/kg body weight diluted in 500ml normal saline or 5% Dextrose over 4 hours
REPEAT DOSES Repeat quinine 10mg/kg body weight every 8 hours-each dose given over 4 hours- until patient able to take orally	REPEAT DOSES Repeat quinine 10mg/kg body weight every 8 hours-each dose given over 4 hours- until patient able to take orally

Pre-referral treatment for severe malaria: Artesunate suppositories

AGE	ARTESUNATE SUPPOSITORY DOSE
6 Months-1 Year	50mg Stat
>1-3 Years	100mg Stat
>3-5 Years	200mg Stat
>5-13 Years	300mg Stat
14-15 Years	400mg Stat
≥16 Years	600mg Stat

When Artesunate is given according to known body weight do not exceed 1200mg.

- Where the weight of the patient is not immediately known, use the table above.
- Do not give Rectal Artesunate to children weighing less than 5kg (less than 6 months).
- Artesunate suppositories come in doses of 50mg, 100mg and 400mg per suppository.
- To get to the required dose, 1 or more suppositories can be given in combination to get to the total dose required being considerate not to exceed three suppositories.
- If the suppository is expelled within 30 minutes, the dose should be repeated by insertion of another suppository.
- In children the buttocks can be held together for ten minutes to ensure retention.
- Once the Rectal Artesunate has been given the patient is immediately referred to the nearest health centre for further management without further delay.

PRIMARY HEALTH CENTRE

ALL severe/complicated malaria cases should be given Artesunate suppositories at RHC before referral to hospital for further treatment. After a positive RDT also make a blood slide (thick and thin smear) and label these with the date and PATIENT'S NAME, both sets to accompany the patient to hospital.

In patients weighing above 5kg give Rectal Artesunate as indicated above OR Administer an initial dose of Intravenous Artesunate as indicated above OR If unable or difficult to establish intravenous access, administer an initial dose of Artesunate IM as indicated above and transfer without delay.

NB Patients that have received Rectal Artesunate should receive the second dose at the health facility 12 hours after rectal administration.



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